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ABSTRACT

Many jurisdictions require psychiatrists to assess patient "dangerousness" in the process of involuntary hospitalization. Considerable research indicates that psychiatric prediction of dangerous behavior is rather inaccurate, the principal error being one of overprediction. Inaccuracy may result, in part, from the psychiatrist's role in the health care organization. The Mental Health Associate (MHA) role, not sharing some of these structural disadvantages, is hypothesized to yield more accurate predictions of patient "dangerousness." However, a follow-up study of clients originally assessed on potential dangerousness indicated MHA predictions did not significantly differentiate between those actually manifesting dangerous behavior and those who did not. Further investigation revealed that incidence of stress events was significantly associated with the occurrence of dangerous behavior during the follow-up period and influences the accuracy of MHA assessments. MHA predictions significantly differentiate those manifesting dangerous behavior and those who do not when stress is low during the follow-up period. Under high stress conditions, MHA predictions are less accurate. Implications for the process of attributing dangerousness for involuntary commitment are discussed. (Author)

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DANGEROUSNESS, STRESS AND MENTAL HEALTH EVALUATIONS

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Dangerousness, Stress and Mental Health Evaluations

INTRODUCTION

To protect society and those deemed incompetent or incapable of caring for themselves, the state provides certain mechanisms for involuntary institutionalization and treatment of the mentally ill. In many jurisdictions criteria for commitment require the individual be found, as the result of a mental disorder, dangerous to self or others. At present, fourteen states have civil commitment statutes explicitly referring to the likelihood of danger to self or others. If criteria for issuance of hospitalization via medical certification and emergency detention are included, forty-four states and the District of Columbia have laws including the dangerousness to self or others criteria (Brakel and Rock, 1971). There is also evidence that under a variety of circumstances, the perception of dangerousness is the single most important determinant of judicial decisions to commit or release mental patients (Kumasaka, Stokes and Gupta, 1972).

The laws essentially presume the existence of a knowledge which, when applied by the appropriate expert, leads to a highly valid prediction of dangerousness. The expert most commonly assumed to possess that knowledge is the psychiatrist.

How accurate are psychiatric assessments of dangerousness? A cumulating body of research evidences a rather poor record of prediction (e.g., Wenk et al., 1972; Cocozza and Steadman, 1976). In particular, psychiatrists tend to overpredict dangerous or anti-social behavior. As Dershowitz concludes his review of prediction studies:

> ...it seems that psychiatrists are particularly prone to one type of error-overprediction. They tend to predict anti-social conduct in many instances where it would not, in fact, occur. Indeed, our research suggests that for every correct psychiatric prediction of violence, there are numerous erroneous predictions. (Dershowitz, 1969: 47)

Considering the structural and situational disadvantages of psychiatric evaluators, inaccuracies in their decision making should not be surprising. Typically, the role of the psychiatrist is hampered by: contextual disadvantages, political disadvantages, cultural disadvantages, statistical disadvantages, and informational disadvantages.

1) Contextual Disadvantages: Psychiatrists commonly practice in medical settings (e.g., clinic, hospital, etc.) removed from patients' normal social environment. A judgment about the patient's potential for dangerous behavior ("dangerousness") is frequently required following a brief interview conducted in an unnatural institutional setting. Laing and associates (e.g., Laing and Esterson, 1964) have cautioned about the danger of making evaluations of psychopathology from observations of patients outside their usual complex of social relationships. It is particularly difficult to assess a patient's motivation, internal inhibitions or habit strength (Megargee, 1976) as it pertains to past behavior with little information about the social context of that behavior.

Further, there is evidence indicating that the context of medical decision-making predisposes clinicians to see psychopathology (e.g., Babigian, et al., 1965). Over a decade ago Scheff (1964) reported psychiatrists acting on a presumption of illness in evaluations for

hospital commitment while a more recent investigation (Rosenhan, 1973) suggests normal behavior within hospital settings is often interpreted as psychopathological symptoms. Thus, viewing a patient in the hospital may hamper accurate interpretations of (past and present) patient behavior and contribute to overestimating dangerousness.

2) Political Disadvantages: The psychiatric evaluator is most vulnerable to attack from the community when a patient who is released causes harm. It therefore becomes expedient for evaluators harboring any doubts about a patient's dangerousness to err on the side of hospital commitment rather than release (Scheff, 1963; 1964). The evaluator is unlikely to suffer serious repercussions from having institutionalized the "false positive." This bias toward treatment when in doubt is reinforced by a "medical decision rule" derived from the very ideology of physician practice. Believing that he or she is working for the good of the patient, the medical practitioner assumes that it is better to impute disease than to deny it (Scheff, 1966:32).

3) Cultural Disadvantages: Psychiatrists, like physicians as a whole, are typically white males recruited from middle or high income families. Populations being considered for involuntary psychiatric hospitalization are typically from low income and/or minority backgrounds. In a sense the psychiatric evaluator may be "culturally deprived," finding difficulty in relating to their patients' social background and establishing rapport. Often, the evaluator is only temporarily assigned to a ward involving commitment decisions (e.g., in the case of a rotating resident) so there is little time--or motivation--to build an understanding of the cultural groups using that medical service. Lacking familiarity with patient background should create difficulties in comprehending the meaning of patient behavior.

4) Statistical Disadvantages: Long ago, Meehl and Rosen (1955) recognized the statistical limitations in attempting to predict infrequent events (such as "dangerous behavior"). Referring to Bayes' Theorem, the authors demonstrated that when attempts are made to predict low base-rate events, even a moderate "false positive" rate results in large numbers of prediction errors. Because the base rate of behavior is so small, "false positives" (those said to be dangerous but who are actually not) compromise the greatest part of the error (see e.g., Shah 1975:504 or Megargee, 1976:13).

5) Informational Disadvantages: Most social scientists operate under the assumption that human behavior must be understood as a function of both personality and environment. However, psychiatric evaluators are expected to predict 100% of the variation in human behavior knowing only half of the relevant independent variables (at best). The prediction of behavior from personality variables alone cannot possibly be accurate. Some understanding of the situation to which the patient will be returning and the interactions of these stimuli with personality factors is necessary to improve the validity of psychiatric predictions of dangerousness.

A combination of these situational and structural disadvantages handicaps psychiatrists' ability to assess patient potential for dangerousness. This study investigates whether the removal of certain disadvantages increases the accuracy of psychiatric predictions.

THE PRESENT STUDY

This study involves clients served by the County Emergency Mental Health Service (EMHS) of a large Southeastern, U.S., metropolitan area. The unit, directed by a psychologist, employs several Mental Health

Associates (MHA's). MHA's have completed a bachelor's degree, and, in some cases, are working on graduate degrees. All have spent at least one year in a mental health service gaining clinical experience as a Mental Health Assistant.

The Emergency Mental Health Service receives many calls from area residents in various stages of crisis. Typically, problems involve a subject acting in a peculiar or disruptive fashion due to suspected mental disorder. The 24-hour service frequently acts as a clearinghouse by referring callers to the various specialized agencies and services of the County. Occasionally, the EMHS takes responsibility for a case and attempts crisis intervention work over the phone (essentially discussion, counseling and guidance). In some serious situations an MHA will decide to pursue the case by arranging a home visit. Often, home visits are followed up with additional calls to the clients or another involved agency until the immediate crisis subsides. MHA's file a record of each call and a summary of their observations during each home visit. In cases of suspected mental disorder, MHA's will note whether or not they perceive the subject to be dangerous to self or others (when observations suggest this to be a possibility). MHA's are not able to make hospital commitments but they sometimes inform the concerned family members of procedures for obtaining involuntary hospital admission for evaluation and treatment.

The MHA's role in the mental health system appears to share fewer of the structural and situational disadvantages faced by the hospital-based psychiatrist in predicting dangerousness. First, MHA's employed by the E.M.H.S. have the advantage of viewing a client's behavior in its natural social environment. MHA's often visit the home during

disruptive episodes, observe the patient and speak with household members. Only on rare occasions is a client ever viewed exclusively in a clinical setting. Second, MHA's are not under any political pressure regarding their decisions about patient dangerousness and need for hospitalization. MHA's do not make commitments, but merely use their discretion to inform a client's significant others of available procedures for involuntary hospital admission for evaluation and treatment. Further, MHA's are not trained in programs fostering a "medical decision rule." If anything, they are typically critical of traditional medical model approaches to mental health and appear sensitive to patient rights and court decisions bearing on those issues.

Third, MHA's are more likely than psychiatrists to share social backgrounds similar to clients being evaluated for involuntary commitment. MHA's commonly come from working or lower-middle class homes. Additionally, blacks and women are represented among them. Since MHA's deal almost exclusively with poor and medically indigent persons, experience allows them to develop good rapport and empathy with their clients. MHA's appear "tuned in" to the community of their patients, being conversant in the local dialect and able to understand the cultural values and meaning of client behavior. However, MHA's still face the statistical realities when predicting infrequent behavior and do not know (but may well be in a better position than psychiatrists to anticipate) situational stressors facing their clients in the future.

If MHA's are less likely to experience certain structural barriers to accurate prediction, then it is reasonable to hypothesize that MHA's will more accurately predict "dangerous" behavior than psychiatrists. Further, predictions of MHA's (as with <u>any</u> evaluator) should be more accurate when situational stressors are considered.

METHODOLOGICAL PROCEDURES

The population of 99 clients comprised all cases of suspected mental disorder in the EMHS "Home Visit File" since the first recorded home interventions in early 1973 until November, 1974 (approximately 3 months prior to beginning our follow-up interviews). Interviewers[1] attempted telephone contact with each of the original callers on file, usually a relative or close friend of the subject with a suspected mental problem. When the original caller could not successfully be reached, an attempt was made to contact some other members of the household or "significant other." If this failed, an interview was conducted with the subject of the original intervention (3 cases). Finally, when all telephone contact failed, a home visit was made (6 cases).

Fifty-seven (60%) of the cases received follow-up interviews while 42 (40%) could not be contacted. According to local records, the subjects of the 42 unsuccessful follow-ups were not presently institutionalized in a hopsital or prison but two had died of natural causes. Comparing demographic characteristics (age, sex, race, social class), the group followed up was not significantly different from those who were not. While the drop-outs may have been more transient than those interviewed, they were not a "more dangerous" group. Of the 21 originally designated dangerous by the MHA's, 18 or 86% were in our follow-up group. If anything, the group successfully followed up was more "dangerous."

The 57 follow-up interviews were equally divided among males and females. The age ranged from 16 to 67 with a mean of 36. Thirty-one whites and 26 blacks were contacted and socioeconomic status (education,

income, occupational prestige) was uniformly low. Using the Hollingshead Two Factor Social Position Scale (Hollingshead, 1965), subjects would all be classified in either class IV or V (the lowest). Approximately half had received some psychiatric care or counseling since the initial EMHS intervention although none were hospitalized for more than two weeks. Thus, all had spent most of the follow-up period outside institutional settings and with ample opportunity to exhibit "dangerous" behavior.

Central to the interview were measures of subject dangerousness and social stress. Classification of the subject as having been "dangerous" since the last EMHS contact was based on behavioral descriptions given in response to both open and closed ended questions.[2] A modification of behavioral categories developed by Smith et al., (1963) was used to classify the subject as "dangerous" or "nondangerous" since the last EMHS intervention.[3] Two categories of dangerousness were used: a "broad" definition which included both actual and threats of actions endangering the well being of self or others, while actual acts alone comprised the "narrow" definition. Subjects were categorized with an inter-rater reliability of over 86%.

Stress was measured by the Schedule of Recent Experience (SRE) developed by Holmes and associates (Holmes and Masuda, 1972). The scale lists 43 life events requiring some adjustment of those involved. Each event was assigned a weight based upon prior research (Holmes and Rahe, 1967; Holmes and Masuda, 1972) indicating its magnitude of stress. Although the previous populations assigning the weights and ranks were not directly comparable to our sample, magnitude estimates and rankings over different populations have been sufficiently similar to provide at

least a rough estimate of social stress in the present study (Masuda and Holmes, 1967). Respondents were asked whether the subject of a crisis intervention visit had experienced any of these events within the past year. The weighted scores of events were summed for each subject. Those with scores over 150 were designated "High Stress" (n=23) while those with scores of 150 or less were designated "Low Stress" (n=26). The mean score was 157. Stress scores could not be calculated for 8 subjects due to insufficient information.

FINDINGS AND DISCUSSION

Mental Health Associates predicted 18 (or 31% of the 57 followed up) to be dangerous. Although this figure may appear high, it must be remembered that MHA's only made home visits in serious cases that could not be handled over the phone or by referral. Also inflating this rate are the disproportionate numbers of patients originally designated as dangerous in our follow-up sample. When the total number of patients is considered, the proportion defined as dangerous is only 21% (21 of 99).

Table I indicates behavior occurring since the last EMHS contact for subjects said by MHA's to be dangerous and those not so defined.[4]

Table I about here

Table Ia classifies post EMHS behavior using a "broad" definition of dangerousness (actual or threatened behavior) while Ib shows the same using a "narrow" definition (actual behavior only). The analysis shows no relationship between MHA prediction and behavior at follow-up, suggesting that Mental Health Associates are not very accurate predictors

of patient behavior. Significantly, 47% said to be dangerous did not appear dangerous (broad definition) when followed up and, using a narrow definition, 71% of those declared dangerous had neither committed nor threatened dangerous behaviors. Conversely, 42% of those not evaluated as dangerous are classified as dangerous (broad definition) on the basis of our follow-up of post EMHS visit behavior. The rate is 22% using the narrow definition. Although MHA's predicted correctly in 56% (broad definition) or 40% (narrow definition) of the cases, their prediction did not differentiate those behaving dangerously and those not at a statistically significant level.

Comparative Studies:

Despite their many strategic advantages in prediction relative to hospital-based psychiatrists, MHA's appear unable to predict dangerousness significantly better than the flip of a coin. However, this does not necessarily indicate MHA's are any worse than more extensively trained psychiatrists or other professionals. There is no research allowing a direct comparison between the accuracy of psychiatrist and MHA predictions. However, several studies offer a baseline for indirect comparisons, especially on the overprediction or "false positive" rate.

Some research has compared the post-hospital behavior of former mental patients to a non-patient population (e.g., Zitrin, et al., 1976; Giovannoni and Gurel, 1967; Rappeport and Lassen, 1965). Assuming that all formerly institutionalized patients were originally evaluated to be dangerous, an absence of violent post-hospital behavior might serve as one indication of false positive rates. Unfortunately, all institutionalized patients are not designated dangerous. Even when patients are

labeled as dangerous, psychiatrists may actually be using the label to legally justify incarceration for some other reason (e.g., the patient may simply be seen to be in need of care). Further, the long-term care mediating an assessment of dangerous and release might "cure" or at least "burn out" the truly dangerous patient. Absence of post-hospital violence does not necessarily indicate the psychiatrist was wrong at the time of an initial evaluation. Finally, most of the follow-up investigations in these studies use selected arrest rates as indicators of dangerousness. Much violent behavior, (e.g., that which occurs within the family or is not sufficiently damaging to require medical care or police intervention) is probably undetected. Keeping these shortcomings in mind, the most recent study of this type by Zitrin, et al., (1976) is illustrative. The authors report slightly higher rates of assaultive acts among ex-mental patients (16.85 arrests for violent acts for every 1000 ex-patients) than a comparison group of non-patient members of the same community (15.64 per 1000). If it can be assumed that all mental patients were considered dangerous (and it cannot), the "false positive" rate (those designated dangerous who do not actually commit assaultive acts) is 98.3%.

A second study predicting dangerousness among delinquents rather than mental patients also serves as a comparison (Wenk et al., 1972). Using a variety of psychometric tests and multivariate statistical procedures, the authors predicted future acts of violence among 4,146 juveniles in California Youth Authority wards. The follow-up data on arrest records of released inmates indicated a 99.7% false positive rate (absence of arrests for assaultive acts among those predicted to be violent).

A series of studies by Steadman and his colleagues at the New York State Department of Mental Hygiene offer additional comparisons. A Supreme Court decision (Baxstrom v. Herold) held that continued detention in hospitals for the criminally insane beyond maximum prison sentence without a proper judicial review was a denial of equal protection. The resulting transfer of nearly 1000 patients from two New York maximum security "prison" hospitals to civil hospitals provided Steadman and Cocozza (1974) with an excellent field study. In arguing against the transfer, state officials had indicated that these patients were "dangerous" and expressed fear and concern about their impact when moved to civil hospitals. However, a four-year follow-up of the "Operation Baxstrom" patients revealed that only 26 of 967 had exhibited sufficiently violent behavior to justify their return to a maximum security facility. The "false positive" rate was therefore 97.3%. A sample of 98 patients released and followed up in the community produced only 2 persons arrested for violent acts (approximately 98% false positive). Again, interpretation of these rates as "over-prediction" assumes all patients were still assessed as "dangerous" at the time of transfer from maximum security institutions. It is possible that all of the Baxstrom patients were correctly assessed as dangerous at the time of initial hospitalization. However, an average of 15 years' incarceration and a mean age of 47 at the time of transfer may have rendered many of these patients less threatening. Although procedural rules dictated that non-dangerous patients should have already been transferred to civil hospitals (i.e., all the patients in the court-ordered transfer can be presumed dangerous), it is possible that many Baxstrom patients were actually not dangerous but had remained in prison hospitals due to administrative neglect or inertia.

Although two final studies also deal with criminally charged patients, they offer the best comparative picture of psychiatrist and MHA predictive skills. Steadman (1973) followed up persons convicted of a felony who were found incompetent to stand trial and who, by law, received psychiatric evaluations to determine their "dangerousness." The follow-up involved monitoring behavior through hospital and police (arrest) records. Only 14% of those labeled "dangerous" were arrested for violent crimes upon release to the community (as compared to 16% of those considered "non-dangerous"), resulting in an 86% false positive error. Finally, the work of Kozol et al (1972) demonstrates some success in reducing the false positive error with a group of 592 males, most of them convicted as sex offenders. Here the assessment of dangerousness went far beyond a single hospital-based physician. A team of psychiatrists, psychologists, social workers and others subjected each patient to an intensive examination using a variety of instruments and interviews. Families of the patient and even victims of the patients' attack provided information in the assessment. During the five-year follow-up of patients evaluated as dangerous but nevertheless released by the courts, 35% recidivated, i.e., a false positive rate of 65%.[5] Unfortunately, several methodological shortcomings in this study (Monahan, 1973) limit the strength of its findings.

Table II summarizes the "false positive" error rate in each study.

Table II about here

In the present investigation a "narrow" rather than "broad" definition of dangerous behavior is a better basis for comparison with other studies. The overt assaultive behavior comes closest to the types of follow-up behaviors detected in the other investigations (primarily arrests). With a false positive rate of 71%, MHA's at least appear no

worse than other health professioanls. In fact, the only study with a better false positive record is that of Kozol et al., which used an interdisciplinary team applying a variety of methods in an intensive evaluation of each patient. It should be noted that all other studies dealt with criminally charged patients, many of whom had a history of assaultiveness. The present study deals with some patients who have acted out but have not involved police or medical care for the victims. There is no comparable study of danger predicted for non-criminal patients, perhaps because it is believed that prediction of dangerousness among such patients is impossible. Even Kozol et al., assert that "no one can predict dangerous behavior in an individual with no history of dangerous acting out" (Kozol et al., 1972:384).

The Role of Stress:

Earlier it was suggested that situational stress should be an important consideration in the prediction of dangerousness. Table III

Table III About Here

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demonstrates the validity of that concern as post-EMHS interventions behavior (with dangerousness defined broadly or narrowly) is associated with the degree of stress present. Under conditions of high stress 65% exhibit dangerous behavior (broadly defined) while only 31% do so in low stress situations.[6]

Therefore, it is likely that the unanticipated environmental stresses met by subjects make prediction a difficult task for any professional. To investigate the interaction of stress and prediction, MHA's assessments and subsequent behavior indicated at follow-up were

examined under conditions of High and Low stress. Because of the small cell frequencies, Table IV includes only broadly defined dangerousness. Under conditions of Low Stress, MHA's predictions of patient behavior are

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Table IV About Here

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accurate at a level that approaches statistical significance. However, under conditions of High Stress, predictions are not significant. Apparently, under stressful conditions, some of those said not to be dangerous actually manifest dangerous behaviors.

SUMMARY AND CONCLUSIONS

Because of the limitations in design and analysis, partly a function of small sample size, any results from this study can only be treated tentatively and with caution. The data indicate that non-psychiatric health professionals with presumed advantages for predicting behavior are unable to predict dangerousness significantly better than chance. However, comparisons with psychiatrists show MHA's to be no worse, and quite possibly better, at prediction. Unfortunately, the other investigations are not equivalent in research design and populations studied. However, the occurrence of life events producing stress appear associated with the presence of dangerous behavior. Under conditions of Low Stress, MHA's have a more accurate prediction record, than when stress events occur. All things being equal, MHA's do a creditable job of prediction. But all things are <u>not</u> equal and other unanticipated factors interfere with expected relationships--a situation familiar and frustrating to all behavioral scientists.

Our findings have some obvious implications for the prediction of dangerousness in making involuntary civil psychiatric commitments. First, it would appear that multi-disciplinary teams rather than psychiatrists alone should be involved in the decision-making. Interestingly, Kozol's team (with the best prediction record) is multi-disciplinary and report even lower error rates when only considering cases in which agreement was reached between psychiatrists and non-psychiatric personnel. The input of those with knowledge of the patient's home setting and socio-cultural background should improve evaluations.

Second, evaluators must consider environmental stress in their prediction equation. Interviews with significant others (preferably in the home setting), investigation into the job status, financial well being, life style and whether or not the subject owns a firearm might comprise some of the considerations. But this touches on a knotty legal issue. In the case of a civil patient, incarceration is allowable for dangerousness resulting from a mental problem for which therapy is to be provided. An actuarial table designating high and low risk groups on the basis of such categories as race, sex, income, etc., may violate the spirit of the law.

Finally, our results suggest that psychiatrists may not necessarily be the most desirable personnel for predictions of dangerousness. Dangerousness is not a medical category and psychiatrists appear to have no special insight into its prediction. The testimony of other non-medical personnel in commitment hearings might be more seriously considered by the court. This is consistent with Ziskin's (1974) conclusions after reviewing a body of research indicating lay persons were as accurate, if not better than experienced psychologists, in clinical assessments of subjects. Psychiatrists are a rare and expensive

commodity and the health care delivery system might be better served, on a cost-benefit basis, by experienced personnel with less training. But all of these suggestions need the weight of additional evidence behind them.

Whether or not involuntary civil commitments should be considered at all, given the current knowledge and skills, is a legal and ethical question beyond the scope of this paper. Our findings suggest that if we are to continue using the dangerousness criteria for involuntary civil commitment, it might be possible to improve upon the validity of such predictions.

Table I: Mental Health Associate Predictions of Dangerousness and Subject's Behavior Since the Last EMHS Intervention as Reported in Follow-up Interview*

Behavior at Follow-up	MHA Prediction			
	Dangerous		Not Dangerous	
	%	(n)	%	(n)
a** Broad Definition				
Dangerous	53	(9)	42	(15)
Not Dangerous	47	(8)	58	(21)
TOTALS	100%	(17)	100%	(36)
b*** Narrow Definition				
Dangerous	29	(5)	22	(8)
Not Dangerous	71	(12)	78	(28)
TOTALS	100%	(17)	100%	(36)

*Due to insufficient information, four subjects could not be included in the analysis

**x^2=.59
P=.44

***x^2=.32
P=.57

Table II: "False Positive" Rates of MHA's Predicting Dangerousness Compared to Other Prediction Studies

Study	Percent Predicted "Dangerous" Not Found Dangerous in Follow-up (i.e., "False Positives")
MHA Study (narrow definition)	71%
MHA Study (broad definition)	47%
Zitrin et al. (1976)	98%
Wenk et al. (1972)	99.7%
Steadman and Cocozza--hospital follow-up (1974)	97.3%
Steadman and Cocozza--community follow-up (1974)	98%
Steadman (1973)	86%
Kozol et al. (1972)	65%

Table III: Behavior Since EMHS Intervention by Stress (SRE Measure)*

Behavior at Follow-up	Stress			
	High		Low	
	(n)	%	(n)	%
**a. Broad Definition				
Dangerous	(15)	65	(8)	31
Not Dangerous	(8)	35	(18)	69
Total	(23)	100%	(26)	100%
***b. Narrow Definition				
Dangerous	(9)	39	(4)	15
Not Dangerous	(14)	61	(22)	85
Total	(23)	100%	(26)	100%

*Due to insufficient information 8 subjects could not be included in the analysis

**x^2=5.81; P=.01

***x^2=3.53; P=.06

Table IV: Mental Health Associate Predictions of Dangerousness and Subjects Behavior Since the Last EMHS Intervention as Reported at Follow-up, Controlling for Stress

Behavior at Follow-up (Broad Definition)	MHA Prediction							
	Low Stress**				High Stress***			
	Dangerous		Not Dangerous		Dangerous		Not Dangerous	
	(n)	%	(n)	%	(n)	%	(n)	%
Dangerous	(5)	56	(3)	18	(5)	56	(11)	79
Not Dangerous	(4)	44	(14)	82	(4)	44	(3)	21
Total	(9)	100	(17)	100	(9)	100	(14)	100

*Due to insufficient information 8 subjects could not be included in the analysis.

**Fisher exact test P=.06

***Fisher exact test P=.94

FOOTNOTES

1. Six interviewers were currently employed by the EMHS as either Mental Health Associates or Assistants. Although aware of general project goals, they did not know of our specific hypotheses nor did they have information on the original dangerousness evaluation made by MHA's during the home intervention.

   MHA's had a standardized interview schedule which they adopted in a flexible fashion, using language they felt to be appropriate and pursuing certain lines of questioning when it seemed profitable. One of the authors monitored several of the calls and judged the MHA's to be quite reliable in recording information derived from the interviews.

2. Closed ended questions consisted of items from the Sellin and Wolfgang Seriousness Scale (Sellin and Wolfgang, 1964), a behavioral intentory used in a follow-up study of schizophrenics in home settings (Pasamanick, et al., 1967) and questions asking if specific behaviors originally reported had continued. Using specific closed ended questions hopefully reduced the distortion in recall of behaviors manifested since the last EMHS visit. There appeared to be no differences in the reporting of dangerous behaviors (or stress events) between those last seer by EMHS less than a year and those more than a year ago.

3. If the subject manifested any of the following behaviors, she/he was classified as dangerous using a "broad" definition. If any items with an asterisk were reported, the subject was also classified as dangerous using a "narrow" definition.

FOOTNOTES (continued)

1. accidental

*2. suicidal attempt

3. refusing to eat or take medicine

4. threat of physical harm

*5. actual physical harm

6. destruction of property (intentional and significant)

7. threat of fire setting

*8. actual fire setting

9. threat of sexual assault

*10. actual sexual assault

11. resisting arrest

*12. miscellaneous violent acts potentially harmful to others.

4. In several cases, subjects have been in various treatment settings since the last EMHS intervention. Yet there was no systematic relationship between treatment--or type of treatment--and post-EMHS visit behavior (dangerousness) or scores on the SRE.

5. This rate of overprediction has been reduced nearly 10% in more recent unpublished studies. Personal Communication, March, 1975.

6. High and Low stress represent dichotomized scores on the SRE. An association between SRE scores and dangerous behaviors does not necessarily indicate a causal relationship. Stressful events listed on the SRE (e.g., loss of job, marital conflict, geographic mobility, etc.) could be the result rather than the cause of bizarre behavior. It is likely that behavior and life events were both causes and effects in a snowballing interaction. But SRE scores were not simply a result of unusual or dangerous behavior. Were this the case, a strong association between original behavior (dangerous or not) and SRE scores would probably exist. No such relationship was found in this study.

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